

## Disasters and Substance Abuse or Dependence

### A Fact Sheet from the National Center for PTSD

#### What are the rates of substance use following disasters?

The following findings from empirical disaster research summarize the issue of disasters and substance abuse or dependence.

Rates of new onset alcohol dependence disorders after a disaster, assessed according to DSM criteria, range from 0% to 2%.

Virtually no cases of new onset drug abuse emerged in any of the studies.

Although there are rarely new onsets, the total current prevalence of diagnosed alcohol dependence disorders is approximately 8%. Individuals in select groups who had significant problems with alcohol before a disaster are likely to have problems with alcohol use after a disaster.

Rates of self-reported problematic alcohol use are similar to the total prevalence (7% - 9%).

Using alcohol occasionally as a way of coping is more common, about 15% on average. These rates range from 6% - 40%. The high rates occur among survivors with other psychological diagnoses.

Unlike rates of most other diagnoses and problems, rates of alcohol abuse or dependence appear to be no higher in survivors of mass violence than in survivors of natural disasters.

#### What has research shown about substance use following disasters?

Four studies on the aftermath of the bombing of the Murrah Federal Building in Oklahoma City found only minimal increases in alcohol use, abuse, or dependence.

North et al. (1999) conducted diagnostic interviews with 192 highly exposed survivors and found no new onset substance use (alcohol or drug) disorders. This finding is striking in light of the high prevalence of other psychological disorders in the sample. For example, 34% had disaster-specific PTSD and 13% had new onsets of Major Depressive Disorder. Most of the survivors who used alcohol as a way of coping to a significant degree were those who were suffering from some other psychological disorder. That is, only 6% of respondents who did not meet criteria for a psychiatric disorder used alcohol to cope compared to 13% - 40% of persons who had one or more psychiatric diagnoses.

Shariat et al. (1999) surveyed 494 victims directly involved in a traumatic event about various medical problems. At a rate of 7%, alcohol use was among the least frequent problems. The most prevalent new medical conditions were auditory problems (32%), anxiety (28%), and depression (27%).

Smith et al. (1999) conducted a population survey of the Oklahoma City metropolitan area using Indianapolis as a control community. The rates of increased use of alcohol were approximately 2% and 1% in the two communities, respectively.

In a study that has not yet been published, North (personal communication, October 3, 2001) found a high lifetime rate (50%) of alcohol abuse/dependence among the firefighters who worked in Oklahoma City. Although none of these disorders began after the disaster, 25% continued to abuse alcohol after the disaster. Other studies of incidents of mass violence yielded similar results.

After a shooting spree in a Texas cafeteria, North et al. (1994) detected new onset alcohol use or dependence disorders in 4% of the men and 0% of the women. In contrast, the rates for new onset PTSD were 21% for men and 29% for women, and the rates for new onset depression were 5% for men and 8% for women. Fifteen percent of the sample said they sometimes used alcohol to cope with stress.

North and her colleagues have studied a total of 10 disasters (including the two mentioned above) using the same methods and instruments. The remaining disasters spanned the range of mass violence (shooting sprees), technological disasters (plane crash), and natural disasters (tornado, firestorm, flood, earthquakes). Tallied across all studies, 8% of 811 adults met criteria for postdisaster alcohol dependence, but the rate of new onset alcohol use disorders was only 1%. There were no new onset drug problems in any of the studies.

Although few researchers have data as directly relevant, other researchers have corroborated the findings that alcohol abuse is not a common reaction to disaster.

After Hurricane Andrew, David et al. (1996) assessed a sample of area residents. New onsets of PTSD (36%) and depression (30%) were common but alcohol dependence (2%) was not.

Norris et al. (1999) reported that 9% of their sample of victims of Hurricane Andrew "used alcohol or drugs to forget" at least sometimes, but of the 25 symptoms that were assessed, only one symptom was less prevalent.

Bravo et al. (1990) studied a large sample of victims of floods and mudslides in Puerto Rico and found no increase in symptoms of alcohol use, even within the most severely exposed group (predisaster = 0.9; postdisaster = 1.1). In a regression analysis that controlled for a number of important variables, exposure was correlated with depressive, somatic, and posttraumatic stress symptoms but not with alcohol use symptoms.

## **Related Fact Sheets**

[Alcohol use & PTSD](#)

Information on the impact of PTSD on alcohol use and dependence, which commonly occur in tandem with PTSD

### [Coping with PTSD](#)

Provides information for PTSD survivors on positive techniques for dealing with PTSD

### [Coping with traumatic stress](#)

Discussion of behaviors that are helpful for coping with traumatic stress reactions

### [Dual diagnosis](#)

North, C. S., Nixon, S. J., Shariat, S., Mallonee, S., McMillen, J. C., Spitznagel, E. L., & Petrakakis, M. D. (2001). An interview with Ismene Petrakakis, M.D., about understanding and treating patients who have PTSD in combination with substance abuse disorders, particularly alcoholism

### **References**

Bravo, M., Rubio-Stipec, M., Canino, G. J., Woodbury, M. A., & Ribera, J. C. (1990). The psychological sequelae of disaster stress prospectively and retrospectively evaluated. *American Journal of Community Psychology*, 18, 661-680.

David, D., Mellman, T. A., Mendoza, L. M., Kulick-Bell, R., Ironson, G., & Schneiderman, N. (1996). Psychiatric morbidity following Hurricane Andrew. *Journal of Traumatic Stress*, 9, 607-612.

Norris, F. H., Perilla, J. L., Riad, J. K., Kaniasty, K., & Lavizzo, E. A. (1999). Stability and change in stress, resources, and psychological distress following natural disaster: Findings from Hurricane Andrew. *Anxiety, Stress, and Coping*, 12, 363-396.

North, C.S. (2001). *Psychosocial consequences of disasters: Final report to NIMH for Grant RO1 MH 040025*.

E. L., & Smith, E. M. (1999). Psychiatric disorders among survivors of the Oklahoma City bombing. *Journal of the American Medical Association*, 282, 755-762.

North, C. S., Smith, E. M., & Spitznagel, E. L. (1994). Posttraumatic stress disorder in survivors of a mass shooting. *American Journal of Psychiatry*, 151, 82-88.

Shariat, S., Mallonee, S., Kruger, E., Farmer, K., & North, C. (1999). A prospective study of long-term health outcomes among Oklahoma City bombing survivors. *Journal of the Oklahoma State Medical Association*, 92, 178-186.

Smith, D. W., Christiansen, E. H., Vincent, R., & Hann, N. E. (1999). Population effects of the bombing of Oklahoma City. *Journal of the Oklahoma State Medical Association*, 92, 193-198.

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